October 12, 2007

Pip Decker
Noble Environmental Power
8 Railroad Avenue, Suite 8 Second Floor
Essex, CT 06426
deckerp@noblepower.com

Subject: Reconnaissance-Level Rare Plant Survey at the Proposed Windpark, Coos County, New Hampshire

Dear Pip:

As requested by Granite Reliable Power, LLC, Stantec Consulting, formerly Woodlot Alternatives, Inc., (Stantec)[1] conducted a reconnaissance-level rare plant survey within the area of the proposed Windpark in Coos County, New Hampshire (project area). The survey was conducted over two 2-day periods on June 27-28, 2007 and August 28-29, 2007. Surveys were initiated in mid to late June and again in late August to ensure proper identification of flowering species. This survey was in addition to the wetland reconnaissance and vernal pool survey on May 23-26, 2007 and June 5-6, 2007 (see results of the Wetland and Vernal Pool Reconnaissance survey dated August 17, 2007). The rare plant survey was completed in order to evaluate prospective sites for a wind power project in this area of New Hampshire.

A formal rare plant survey was not completed; therefore, the following results should be used for preliminary planning purposes only. Reconnaissance-level rare plant investigations were conducted in areas that were considered to have a greater likelihood for the presence of rare plant species. Prior to conducting the field survey, Stantec reviewed initial documentation by the New Hampshire Natural Heritage Bureau (NHNHB) which describes areas where certain rare species historically occurring the project area or in the general proximity (see attached NHNHB review). Stantec also researched data from the NHNHB rare plant listing by town to determine what species have been documented in similar habitats and in close proximity to the project. From this information, several areas were identified as having the potential to contain rare plant species based on the known habitat conditions in which these plants occur. Stantec then performed a desktop landscape analysis by reviewing existing maps, aerial photos, bedrock geology, and soil maps to identify areas likely to support the species identified by NHNHB and to help narrow the search area for the reconnaissance survey.

Stantec selected rare plant survey sites based upon information collected by wetland scientists during the spring 2007 wetland and vernal reconnaissance survey (see results of the Wetland and Vernal Pool Reconnaissance survey dated August 17, 2007), in addition to the agency consultation and landscape analysis. The inclusion of this survey information provided some additional areas of focus, beside those identified during the agency consultation and landscape analysis. Those wetlands that contained significant potential for Rare, Threatened, or Endangered (RTE) species were Wetlands 6, 19, 41, and 48 (refer to Figure 1 of wetland report dated August 17, 2007). The subsequent targeted field surveys consisted of meander surveys in the targeted areas as identified during the landscape analysis. Additional observations of the major natural community types within the project area were also recorded

[1] Woodlot Alternatives, Inc. formally merged with Stantec Consulting, Inc. on October 1, 2007.

during the meander surveys, as well as traveling between targeted areas. The locations of any rare plants were located using a Garmin eTrex® Global Positioning System (GPS) receiver. Appropriate ecological and biological information regarding proximate population size, current condition, sex (if applicable), associated species, associated habitat characteristics, and surrounding land use was recorded. Photographs were taken as appropriate and are available upon request. A standard NHNHB plant survey form was completed for any rare plant population documented and is included with this report.

General Site Description

Topography within the Coos County region of New Hampshire is mountainous with elevations ranging from approximately 1,000 feet to 3,400 feet. These mountains occur within a landscape dominated by industrial forestry practices. High elevations are dominated by balsam fir (*Abies balsamea*) and red spruce (*Picea rubens*) forests. The surrounding side slopes and valleys consist primarily of yellow-birch (*Betula alleghaniensis)*, American beech (*Fagus grandifolia*), and sugar maple (*Acer saccharum*), species typically found in northern hardwood–conifer forests. The most dominant natural community types found within the project area during the rare plant reconnaissance survey are described below, using the descriptions taken from *Natural Communities of New Hampshire* (Sperduto and Nichols, 2004)[2], and broken down in two ecological categories. These categories include upland and wetland natural community types.

Upland Natural Communities

Semi-Rich Mesic Forest

This community type is a transition between the sugar maple-beech-yellow birch forest and the rich mesic forest. This type generally lacks the indicators of strong enrichment (i.e., Goldie's fern (*Dryopteris goldiana*), ginseng (*Panax quinquefolius*), and lady's slipper (*Cypripedium*)) and has a limited diversity of rich site indicator species. There is a degree of enrichment in this forest type, but it is dependent on many factors that influence the amount of nutrients available in the soil. The characteristic vegetation in this community type is dominated by sugar maple and sometimes beech with white ash (*Fraxinus americana*) and basswood (*Tilia Americana*) in low abundance.

This natural community occurs on the southern slope of Mount Kelsey, near the saddle between Kelsey and Owlhead mountains, on the upper slopes of the unnamed peaks west of Mount Patience (referred to as Fish Brook Ridge), and on the lower slopes of the unnamed peaks west of Dummer Pond. The vegetation here is typical of a mature hardwood forest, mostly an American beech and sugar maple closed canopy growing among a talus slope with striped maple (*Acer pennsylvanicum*) and mountain maple (*Acer spicatum*) in the understory, along with evergreen wood fern (*Dryopteris intermedia*), mountain wood fern (*Dryopteris campyloptera*), hobblebush (*Viburnum latanoides*), Christmas fern (*Polystichum acrostichoides*), and baneberry species (*Actaea rubrum, A. pachypoda*). There is some potential for rare plant species to occur within this natural community type, although none were observed.

In the northwestern corner of the project area there is a more enriched version of this community type with more mesic soil. This area has several species which require higher levels of enrichment, but the condition of the community overall is not such that the rich mesic forest designation is entirely appropriate.

[2] Sperduto, D. D. and W. F. Nichols 2004. *Natural Communities of New Hampshire*. NH Natural Heritage Bureau and The Nature Conservancy: Concord, NH.

Sugar maple – beech – yellow birch forest

This is the most common hardwood forest type in northern NH, dominated by sugar maple, American beech and yellow birch. The primary source of natural disturbance in this forest is wind throw, creating over story gaps which allow yellow birch (*Betula allegheniensis*) to maintain a presence among the long-lived and shade tolerant sugar maple. Pin cherry (*Prunus pennsylvatica*) also often grows in clear cuts and wind throw gaps in this community type, retaining a high amount of nutrients and organic matter for the system. The soils here are drier than those in the rich mesic forests, but are wetter than in those forests dominated by beech. Other common and important species found in this community type are paper birch (*Betula papyrifera*), striped maple, hobble bush, and white ash with Canada honeysuckle (*Lonicera canadensis*) maintaining the shrub layer. Common species found throughout the understory include: Canada mayflower (*Maianthemum canadense*), whorled aster (*A. acuminatus*), blue bead lily (*C. borealis*), northern wood sorrel (*Oxalis acetosella*), starflower (*Trientalis borealis*), wild sarsaparilla (*Aralia nudicaulis*), red trillium (*trillium erectum*), painted trillium (*trillium undulatum*), rose twisted stalk (*S. roseus*), bunchberry (*cornus Canadensis*), Indian cucumber root (*Medeola virginiana*), New York fern (*Thelypteris noveboracensis*), large leaved goldenrod (*S. macrophylla*), and partridgeberry (*Mitchella repens*).

This community type occurs intermittently throughout the project area; it seems to occur within areas between clear cuts, along the slopes with beech saplings dominating the older cleared areas. Some of these areas have a dense canopy that precludes substantive herbaceous cover in the understory.

Northern hardwood – spruce-fir forest

This community is characterized by American beech, sugar maple, yellow birch mixed with red spruce (*Picea rubens*), hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*) and balsam fir (*Abies balsamea*). These communities typically occur in the transition zone between the hardwood forest and the spruce-fir zones at moderate elevations. Northern hardwood spruce-fir forest is the most common community type within the project area and occurs on slopes between the eastern deciduous forest and the spruce fir zone on the ridges proposed for development. Typical canopy species include sugar maple and American beech, with varying amounts of yellow birch, red spruce, and balsam fir. The dominant understory species include hobblebush, northern wood sorrel, spinulose wood fern (*Dryopteris carthusiana*), evergreen wood fern, blue bead lily, mountain maple, and wild sarsaparilla.

High-Elevation Spruce-Fir

In New Hampshire this community type is found from 2500' to 3500' in elevation on upper mountain slopes and ridge tops and often occurs locally on lower ridges and other infertile sites. In drier conditions, the community contains more heath species, while in moister conditions it has more bryophytes. Soils are generally low nutrient and well drained. Typical vegetation includes various combinations of red spruce, balsam fir and heartleaf paper (*Betula cordifolia*) and yellow birches. The understory community consists of evergreen woodfern, spinulose wood fern, northern wood sorrel, shining clubmoss (huperzia lucidula), star flower, Canada mayflower, blue bead lily, long beech fern (*Thelypteris phegopteris*), bunch berry, goldthread (*Coptis groenlandica*), mountain ash (*Pyrus americana*) , blueberry (*Vaccinum spp*.), and snowberry (*Symphoricarpos albus*). This community type occurs on Dixville Peak and Mount Kelsey within the project area. On Dixville Peak there has been disturbance which has created openings all along the peak to maintain hiking, snowmobile, and all terrain vehicle trails. Within these openings goldenrod, aster and raspberry are common. In the ditch and on the slope alongside the trails northern bog clubmoss (*Lycopodiella subappressa)* and sundew (*Drosera* spp.) are present. The heavily forested areas of these peaks were too thick to support understory species.

Wetland Natural Communities

Black Spruce-Larch Swamp

The *Black spruce – Larch swamp* is a forested wetland on deep nutrient-poor, peat soils; dominated by black spruce (*Picea mariana*) and larch (*Larix laricina*). It occurs with a higher abundance of heath shrubs such as creeping snowberry (*Gaultheria hispidula*), low bush blueberry (*Vaccinium angustifolium*), rhodora (*Rhododendron canadensis*) and cinnamon fern (*Osmunda cinamomea*) than the red spruce swamp community type.

This wetland community type is the most common in this region and is the most dominant wetland type on mountaintops in the project area.

Red Spruce Swamp

The *Red Spruce swamp* occurs on poorly drained mineral soil, with shallow organic soils. Sphagnum moss covers most of the area with three-seeded sedge (*Carex trisperma*), goldthread, bunchberry, and cinnamon fern forming the herbaceous layer. The understory contains red maple, grey birch, mountain holly, and witherod (*Viburnum nudum*).

This type occurs in large wetland complexes often coalescing into a black spruce-larch swamp. Much of the mountaintop wetland complexes within this project area contain the coalesced red and black spruce-larch swamp.

Balsam Fir Floodplain/Siltplain (variant)

This community type is classified as a forested woodland floodplain community with species indicative of higher soil nutrient availability and often has a dense herbaceous and shrub layer with a moderate cover of speckled alder (*Alnus incana*). Characteristic vegetation includes balsam fir, speckled alder, Canada blue-joint (*Calamagrostis canadensis*), meadowsweet (*Spiraea alba*), inflated sedge (*Carex intumescens*), beaked hazelnut (*Corylus cornuta*), whorled aster (*Aster acuminatus*), and goldthread.

The Balsam Fir Floodplain/Siltplain (variant) community occurs along Phillips Brook in various forms. The northern section of the brook has a higher density of speckled alder directly adjacent to the stream bank. Further south, it is a cobbled shore with a floodplain forest adjacent. Balsam fir occurs along the entire length of the southern end of Phillips Brook with some changing inclusions of red maple, yellow birch, and red spruce in the canopy. The herbaceous layer is dominated by foamflower (*Tiarella cordifolia*), meadow-rue (*Thalictrum spp*.), oak fern (*Gymnocarpium dryopteris*), silvery spleenwort (*Athyrium thelypterioides)*, rosy twisted stalk (*Streptopus lanceolatus)*, starflower, sensitive fern (*Onoclea sensibilis*), melic mannagrass (*Glyceria melicaria*), lady fern (*Athyrium felix femina*), and zig-zag goldenrod (*S. flexicaulis*). Areas adjacent to the brook have an herbaceous layer characteristic of the blue joint – goldenrod – virgin's bower floodplain/silt plain community type, described below.

Blue-joint – goldenrod – virgin's bower riverbank/floodplain

This community type occurs on banks and adjacent floodplains of small rivers and major streams. The location and range of the community is determined by the duration and level of flooding and scouring from the river or stream it borders. Typical vegetation dominating this community type includes: Canada blue-joint (*Calamagrostis canadense*), rough goldenrod (*S. rugosa*), smooth goldenrod (*Solidago gigantean)*, virgin's bower (*Clematis virginiana*), joe-pye weed, sensitive fern, tall flat-topped aster (*Aster umbellatus*), grass leaved goldenrod (*Solidago gramnifolia*), groundnut (*Apios Americana)*, marsh fern (*Thelypteris palustris)*, lady fern, swamp candles (*Lysimachia terrestris)*, jewelweed (*Impatiens capensis)*, Canada goldenrod, fringed brome (*bromus ciliatus*), smartweeds (Polygonum spp.), tall meadow-rue *(Thalictrum polygamum)*, and bedstraw species. In areas where there is less flow, there is the opportunity for more

woody shrub species to persist and typically includes speckled alder, willow species, meadowsweet, steeplebush, red maple, dogwoods, and elderberry. In the project area, this community occurs along the banks of Phillips Brook.

Circumneutral Hardwood Forest Seep

This community type is a semi-rich northern hardwood forest on sloping lower mountain slopes with open seeps and small streams and drainages from seeps. This condition creates a high amount of biodiversity with changes observed in available sunlight and soil moisture content within the forest. Common tree species include sugar maple, yellow birch, balsam fir and occasionally black ash (*Fraxinus nigra*). The herbaceous layer is typically very well developed and dense containing melic mannagrass, jewelweed, foamflower, purple stemmed aster *(Aster puniceus var. puniceus)*, dwarf raspberry (*Rubus pubescens*), nodding sedge (*carex gynandra*), mountain woodfern (*dryopteris campyloptera*), Braun's holly fern *(Polystichum braunii),* sensitive fern, white snakeroot (*Ageratina altissima)*, tall meadow rue, blue bead lily, zig-zag goldenrod, red and white baneberry, long beech fern, grass-leaved goldenrod, and Canada blue joint. Potential for large yellow lady's slipper (*C. calceolus*) also occurs in this habitat, where enrichment is higher, however none were observed.

This habitat occurs along the mountainside drainages where the topography allows for a concentration of flow downslope and at flat areas along the slope to collect draining water. Much of the mid-slope of Fish Brook Ridge and the saddle between Owlhead Mountain and Mount Kelsey contain this habitat in areas which have not been cut over.

Rare Plant Reconnaissance Summary

Throughout the two 2-day survey periods only one rare plant species was observed within the project area. Mountain sweet cicely (*Osmorrhiza berteroi*) was observed in one location on the southern slope of an unnamed peak near Baldhead Mountain in the northwest part of the project area (figure 1). This location has been removed from the project design since the time of the survey, therefore it is anticipated that no impacts to this species will occur from the proposed project.

This plant is classified as Endangered in the state of New Hampshire. Mountain sweet cicely has a NHNHB ranking of G5/S1; this means that on a global level the plant is stable, but in the State it is critically imperiled because of extreme rarity or because some biological factor makes it particularly vulnerable to extinction. Prior to 1986 in New Hampshire there were 13 known population sites, since then only 2 populations have been found. Mountain sweet cicely typically occurs in rich mesic forests (i.e., sugar maple-beech, yellow birch, and northern hardwood spruce fir forests) as described in the Natural Community section above. The site at which it was observed was a climax hardwood forest dominated by sugar maple in a closed canopy system. Other species in the understory include: Christmas fern, Braun's holly fern, jewelweed, mountain wood fern, long beech fern, bladder sedge, and a mannagrass species. For a complete list of plant species observed in the project area during the two survey periods refer to Table 1 enclosed.

State and Federal Rare Plant Regulations

Rare plants in New Hampshire are protected under both Federal and State law. Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) is administered by the United States Fish and Wildlife Service to federally protect rare plants and wildlife. There were no plant species identified that would require consultation under the Endangered Species Act of 1973. The State of New Hampshire Native Plant Protection Act protects indigenous plant species (N.H. Rev. Stat. Ann. 217-A: 2 *et seq*.). One endangered plant species was observed during field visits described above; however, the location where mountain cicely was observed is no longer within the footprint of the project. Stantec recommends further consultation with NHNHB regarding the presence of rare plants once the footprint of the facility is better defined. It is also suggested that detailed rare plant, wildlife, and wetland surveys be completed upon maturation of the design phase of your project.

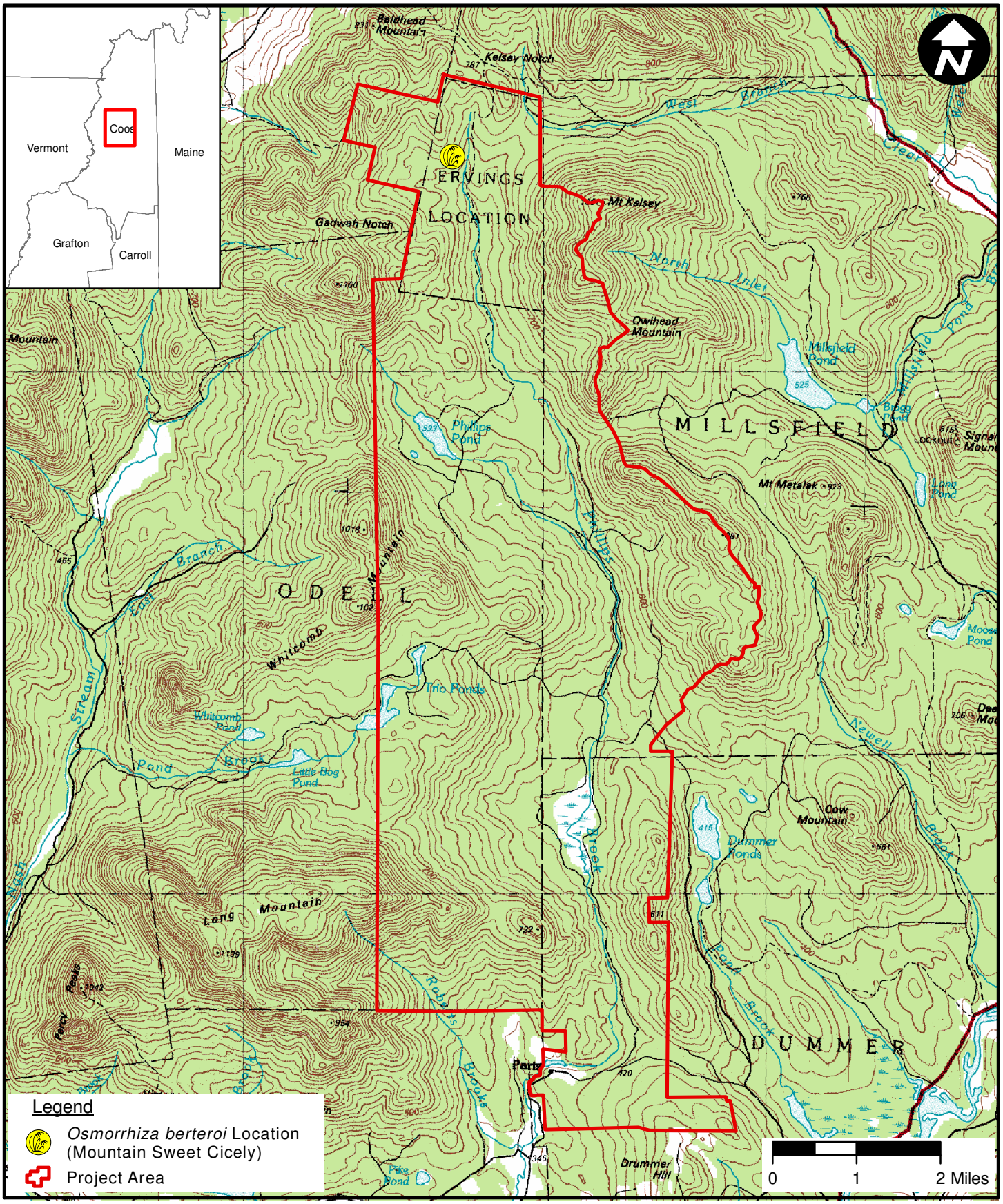
Please contact our office if you have any questions related to the information presented in this report or if we can be of further assistance.

Sincerely,
Stantec Consulting

Adam Gravel
Adam Gravel

Enclosures: Figure 1. Rare Plant location Map
Table 1. Plant Species List
New Hampshire Natural Heritage Bureau (NHNHB) response to request for information
NHNHB Rare Plant Species Forms

WAI File 106195



Prepared By:

Stantec

WOODLOT

106195-F00-rareplant_recon.mxd

Sheet Title:

Rare Plant Recon Location Map

Project:

Noble Windpark
Coos County, New Hampshire

Date: October 04, 2007

Scale: 1:100,000

Proj. No.: 106195

Figure:

1

Table 1. Plant Species List for the Proposed Windpark, Coos County, NH	
Common Name	**Scientific Name**
balsam fir	*Abies balsamea*
striped maple	*Acer pennsylvanicum*
red maple	*Acer rubrum*
mountain maple	*Acer spicatum*
doll's eyes	*Actaea pachypoda*
red baneberry	*Actaea rubrum*
speckled alder	*Alnus incana*
common sarsaparilla	*Aralia nudicaulis*
Jack in the pulpit	*Arisaema stewardsonii*
lady fern	*Arythrum felix-femina*
yellow birch	*Betula alleghenensis*
paper birch	*Betula papyrifera*
grey birch	*Betula populifolia*
bladder sedge	*Carex intumescens*
shining sedge	*Carex lurida*
pipsissewa	*Chimaphila umbellata*
oxeye daisy	*Chrysanthemum leucanthemum*
virgin's bower	*Clematis virginiana*
blue-bead lily	*Clintonia borealis*
goldthread	*Coptis trifoliata*
alternate-leaved dogwood	*Cornus alternifolia*
bunchberry	*Cornus canadensis*
beaked hazlenut	*Corylus cornuta*
hay-scented fern	*Dennstaedtia punctilobula*
mountain wood fern	*Dryopteris campyloptera*
false helleborine	*Epipactus helleborine*
common horsetail	*Equisetum arvense*
marsh bedstraw	*Galium palustre*
creeping snowberry	*Gaultheria hispidula*
water avens	*Geum rivale*
fowl mannagrass	*Glyceria striata*
oak fern	*Gymnocarpium dryopteris*
white bog orchis	*Habeneria dilatata*
cow parsnip	*Heracleum maximum*
marsh St. John's wort	*Hypericum virginicum*
jewelweed	*Impatiens capensis*
blue flag iris	*Iris versicolor*
blue lettuce	*Lactuca sp.*
twinflower	*Linnaea borealis*
American fly honeysuckle	*Lonicera canadensis*
swamp fly honeysuckle	*Lonicera oblongifolia*
indian cucumber root	*Medeola virginiana*
Canada mayflower	*Mianthemum canadensis*
false Solomon's seal	*Mianthemum racemosum*
common mountain holly	*Nemopanthus mucronatus*
whorled aster	*Oclemena acuminatus*

Table 1. Plant Species List for the Proposed Windpark, Coos County, NH (*cont.*)	
sensitive fern	*Onoclea sensibilis*
mountain sweet cicely	***Osmorrhiza berteroi***
cinnamon fern	*Osmunda cinnamonea*
wood sorrell	*Oxalis montana*
long beech fern	*Phegopteris connectalis*
red spruce	*Picea rubrum*
eastern white pine	*Pinus strobus*
Braun's holly fern	*Polystichum braunii*
christmas fern	*Polystichum christoides*
common cinquefoil	*Potentilla simplex*
hooked buttercup	*Ranunculus recurvatus*
gooseberry	*Ribes sp.*
red raspberry	*Rubus idaeus ssp. Idaeus*
common elderberry	*Sambucus canadensis*
black snakeroot	*Sanicula marilandica*
wool grass	*Scirpus cyperinus*
American mountain ash	*Sorbus acuparia*
sphagnum moss	*Sphagnum sp.*
twisted stalk	*Streptopus amplexifolius*
tall meadow rue	*Thalictrum polygamum*
New York fern	*Thelypteris novae-borensis*
marsh fern	*Thelypteris palustrus*
northern white cedar	*Thuja occidentalis*
foamflower	*Tiarella cordifolia*
starflower	*Trientalis borealis*
hop clover	*Trifolium agrarium*
rabbit-foot clover	*Trifolium arvense*
red clover	*Trifolium repens*
eastern hemlock	*Tsuga canadensis*
common helleborine	*Veratum viride*
hobblebush	*Viburnum latifolia*
cow vetch	*Vicia cracca*

Memo

NH Natural Heritage Bureau

To: Robert Roy, Woodlot Alternatives Inc
30 Park Drive
Topsham ME 04086

From: Melissa Harty, NH Natural Heritage Bureau
Date: 2006-10-24
Re: Review by NH Natural Heritage Bureau
NHB File ID: 6905
Project type: Wind Energy Development
Town: Errol, Odell, Dummer,Millsfield, Ervings Location
Location: Noble Windpark
cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Plant species	State[1]	Federal	Notes
Bailey's Sedge (*Carex baileyi*)*	E	--	As a resident of wetlands and peatlands, this species is susceptible to any changes to the wetland's hydrology (especially that which causes pooling), increased nutrient input from stormwater runoff, and sedimentation from nearby disturbances.
Farwell's Water Milfoil (*Myriophyllum farwellii*)*	E	--	Threats to aquatic species include changes in water quality, e.g., due to pollution and stormwater runoff, and significant changes in water level.
Goldie's Fern (*Dryopteris goldiana*)*	T	--	Invasive species such as garlic mustard (Allaria petiolata) are a threat to this species; however, the greatest threat is the loss of woodland habitat through logging and subsequent development or agriculture.
Lily-leaved Twayblade (*Listera convallarioides*)*	T	--	Threats include harvesting the canopy over the plants' seep or swamp habitat, compaction of the wet soils, increased inputs of nutrients or pollutants, and changes to local hydrology. Recreational hiking can also threaten the plants if not routed around their habitat.
River Bank Quillwort (*Isoetes riparia*)*	E	--	Primarily vulnerable to changes to the hydrology of its wetland habitat, especially alterations that change water levels. It may also be susceptible to increased pollutants and nutrients carried in stormwater runoff.
Sensitive species	T	--	Please contact NH Natural Heritage (271-2215 x 323) if project impacts could occur in the area shown on the map.

Vertebrate species	State[1]	Federal	Notes
American Marten (*Martes americana*)	T	--	Contact the NH Fish & Game Dept (see below).

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

Memo

NH Natural Heritage Bureau

Common Loon (*Gavia immer*)	T	--	Contact the NH Fish & Game Dept (see below).
Northern Harrier (*Circus cyaneus*)	E	--	Contact the NH Fish & Game Dept (see below).
Osprey (*Pandion haliaetus*)	T	--	Contact the NH Fish & Game Dept (see below).
Pied-billed Grebe (*Podilymbus podiceps*)	E	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. For some purposes, including legal requirements for state wetland permits, the fact that no species of concern are known to be present is sufficient. However, an on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
PO Box 1856
Concord NH 03302-1856

NHB: 6905

EOCODE: PMORC0Q092*004*NH

New Hampshire Natural Heritage Bureau - Plant Record

Large Yellow Lady's Slipper (*Cypripedium parviflorum var. pubescens*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1948: S. K. HARRIS SPECIMEN AT NEBC. #7262.
General Area:

Location

Survey Site Name: Dummer Hill
Managed By:

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Dummer	Lat, Long:	
Size:	1940.2 acres	Elevation:	1780 feet

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Dates documented

First reported:	1948	Last reported:	1948-06-18

NHB: 6905

EOCODE: PMORC1N050*002*NH

New Hampshire Natural Heritage Bureau - Plant Record

Lily-leaved Twayblade (*Listera convallarioides*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1964: Specimen collected.
General Area:

Location

Survey Site Name: Dummer Hill
Managed By: Pontook Reservoir. DES - WRC (FO)

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Dummer	Lat, Long:	443808N, 0711732W
Size:	4592.3 acres	Elevation:	1780 feet

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: Dummer Hill.

Dates documented

First reported:	1964-08-06	Last reported:	1964-08-06

New Hampshire Natural Heritage Bureau - Plant Record

Bailey's Sedge (*Carex baileyi*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Apparently secure but with cause for concern
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1949: Specimen collected.
General Area: 1949: No details.

Location

Survey Site Name: Phillips Brook
Managed By:

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Dummer	Lat, Long:	444018N, 0711833W
Size:	1378.1 acres	Elevation:	1450 feet

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: Phillips Brook.

Dates documented

First reported:	1949	Last reported:	1949

New Hampshire Natural Heritage Bureau - Plant Record

River Bank Quillwort (*Isoetes riparia*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1949: Specimen collected.
General Area: 1949: No details.

Location

Survey Site Name: Phillips Pond
Managed By:

County:	Coos	USGS quad(s):	Dixville Notch (4407173)
Town(s):	Odell	Lat, Long:	444542N, 0712126W
Size:	2.8 acres	Elevation:	1945 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Phillips Pond.

Dates documented

First reported:	1949	Last reported:	1949-08-12

New Hampshire Natural Heritage Bureau - Plant Record

Goldie's Fern (*Dryopteris goldiana*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Apparently secure but with cause for concern
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Historical records only - current condition unknown.
Comments on Rank:

Detailed Description: 1921: Specimen collected.
General Area: 1921: Rich woods.

Location

Survey Site Name: Millsfield
Managed By:

County:	Coos	USGS quad(s):	Dixville Notch (4407173)
Town(s):	Millsfield	Lat, Long:	444628N, 0711548W
Size:	4592.3 acres	Elevation:	1800 feet

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: Millsfield. Path to Millsfield Pond.

Dates documented

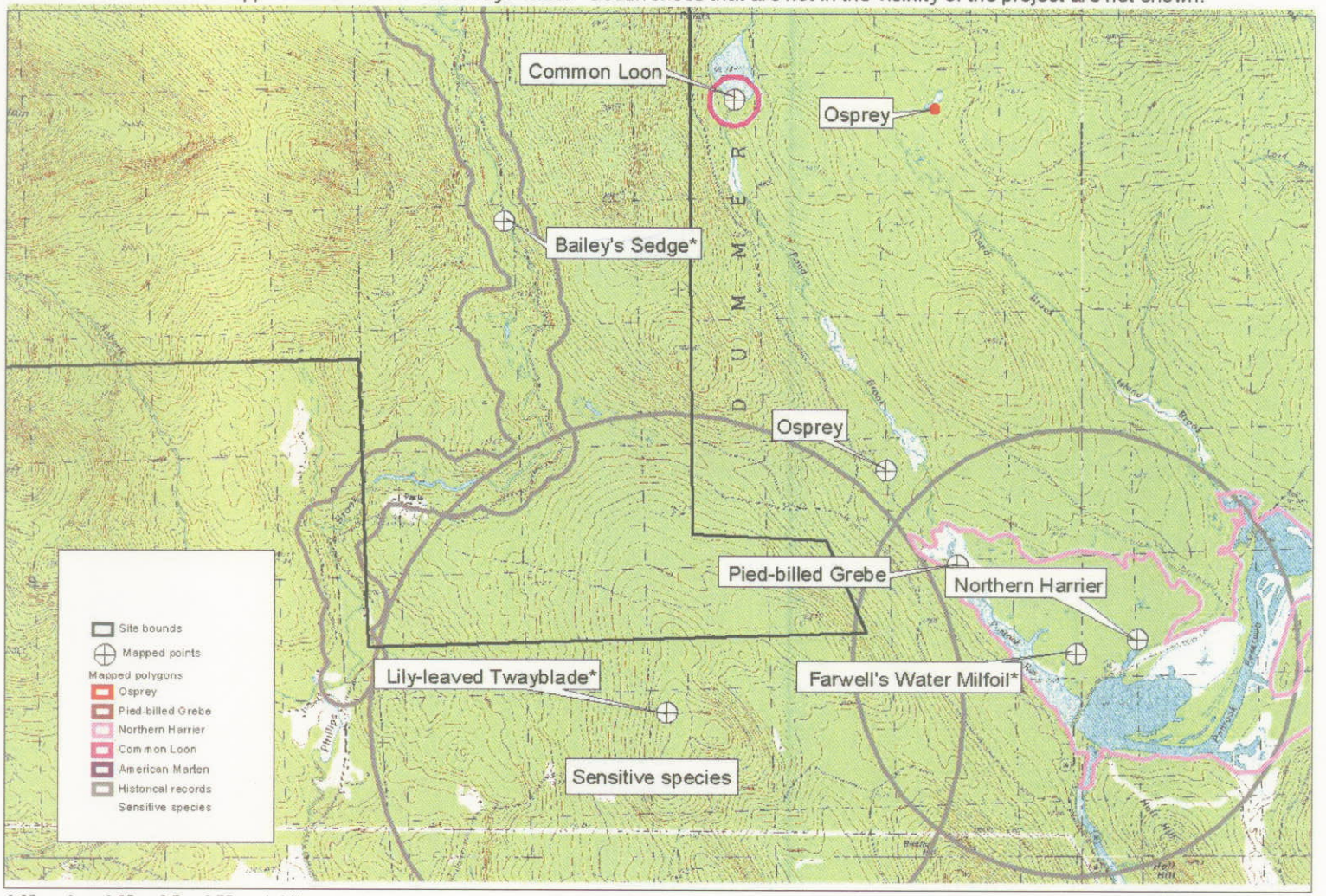
First reported:	1921	Last reported:	1921-08-24

NHB: 6905

NH NATURAL HERITAGE BUREAU

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record

1:45000

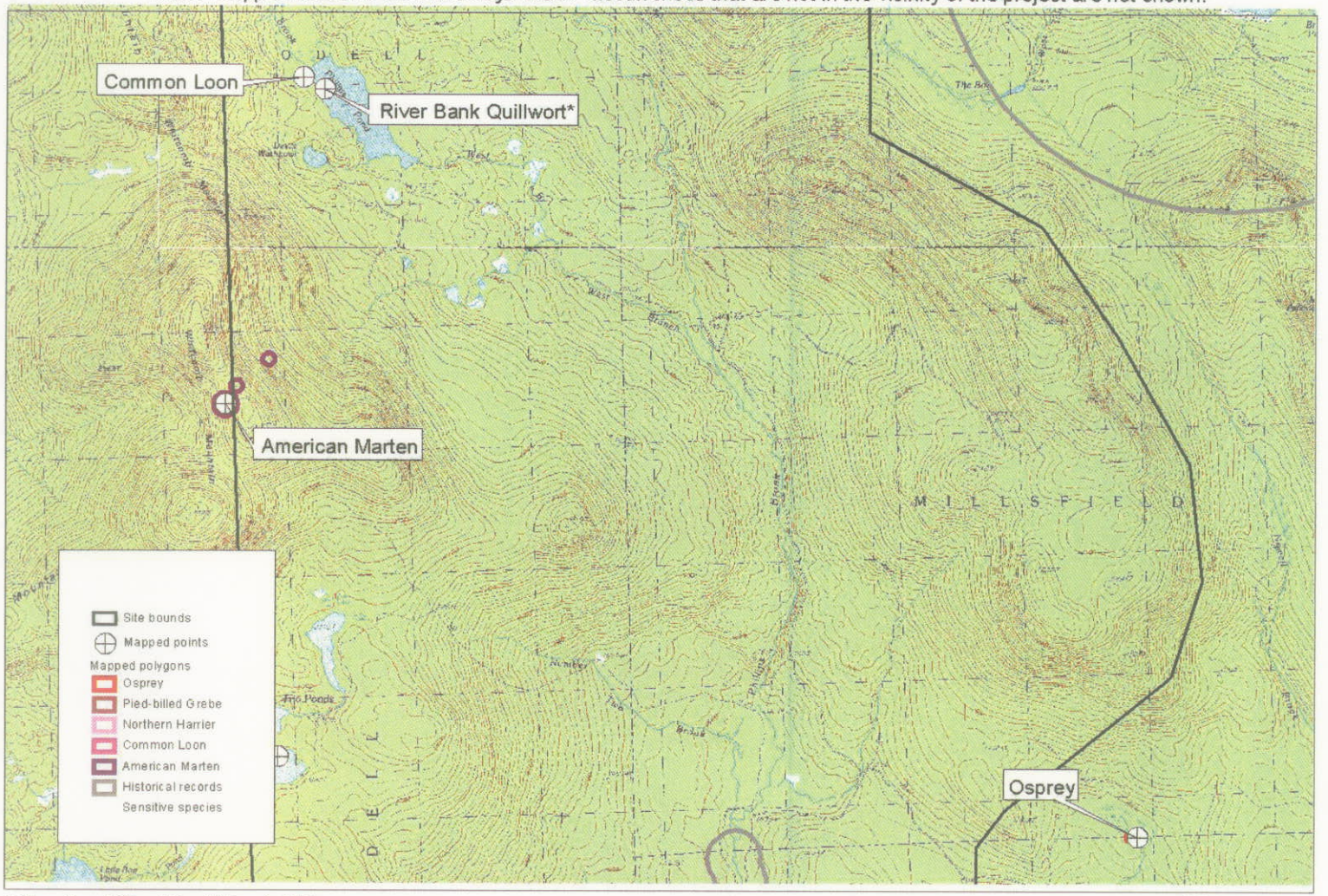
Valid for one year from this date: 31 Oct 2006

NHB: 6905a

NH NATURAL HERITAGE BUREAU

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record

1:45000

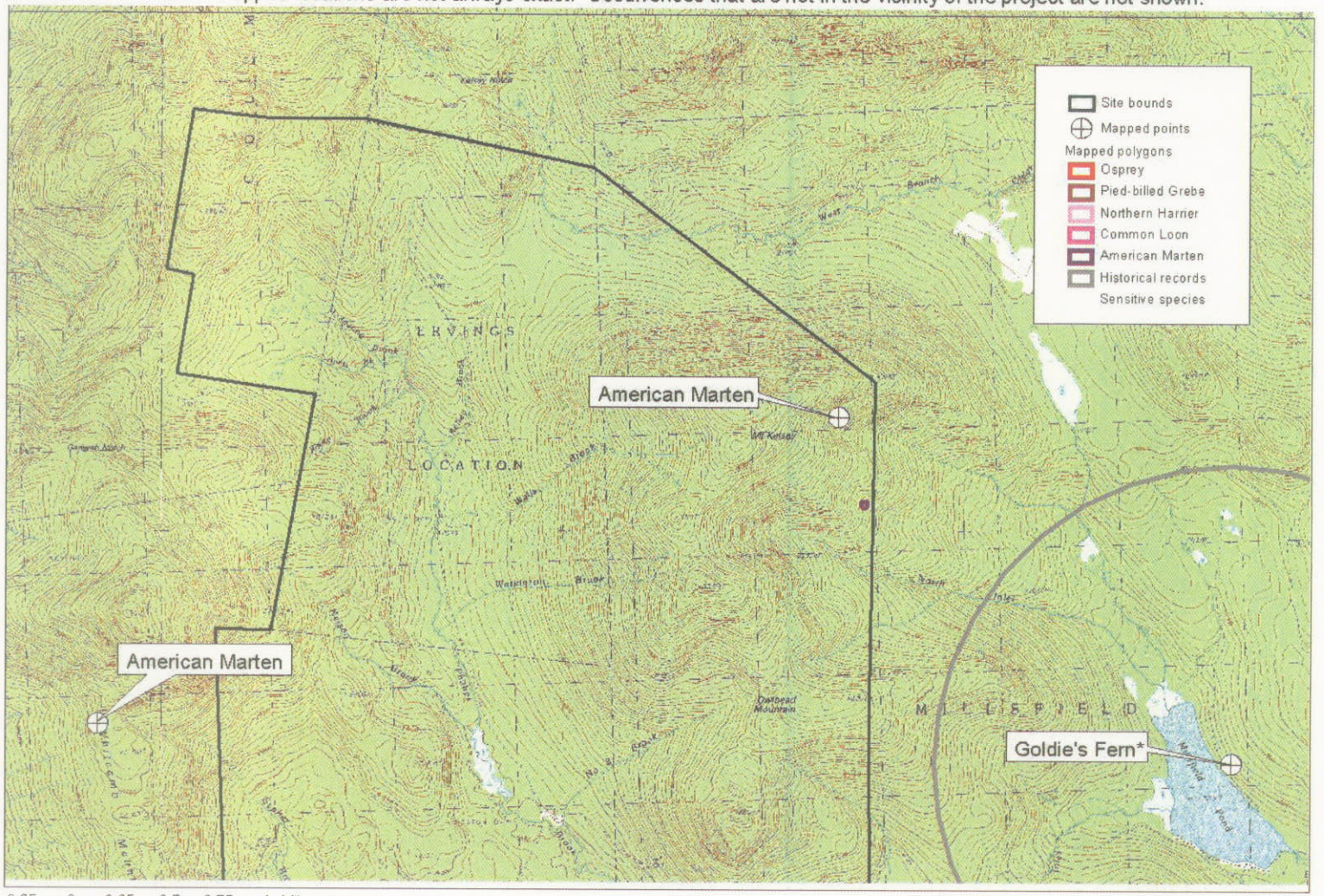
Valid for one year from this date: 31 Oct 2006

NHB: 6905b

NH NATURAL HERITAGE BUREAU

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



0.25 0 0.25 0.5 0.75 1 Miles

*Historical record

1:45000

Valid for one year from this date: 31 Oct 2006

NHB: 6905

EOCODE: AMAJF01010*010*NH

New Hampshire Natural Heritage Bureau - Animal Record

American Marten (*Martes americana*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 1998: Tracks observed.
General Area:

Location

Survey Site Name: Whitcomb Mountain
Managed By: Nash Stream Forest. DRED (FO)

County: Coos
Town(s): Odell
Size: 1.9 acres

USGS quad(s): Blue Mountain (4407174)
Lat, Long: 444639N, 0712252W
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 1998-12-01 Last reported: 1998-12-01

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: AMAJF01010*011*NH

New Hampshire Natural Heritage Bureau - Animal Record

American Marten (*Martes americana*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2004: Area 7022M: 1 individual trapped on 2 dates (6/17, 6/20).1997: Area 6948: 1 seen.
General Area:

Location

Survey Site Name: Long Mountain
Managed By: Nash Stream Forest. DRED (FO)

County:	Coos	USGS quad(s):	Percy Peaks (4407164)
Town(s):	Odell	Lat, Long:	444047N, 0712329W
Size:	2.4 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported:	1997-12-01	Last reported:	2004-06-20

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: AMAJF01010*028*NH

New Hampshire Natural Heritage Bureau - Animal Record

American Marten (*Martes americana*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2001: Area 6967: Tracks observed (3/20). Area 6966: Tracks observed (3/21). Area 6978: 1 seen (12/17).
General Area:

Location

Survey Site Name: Mt. Whitcomb
Managed By: Nash Stream Forest. DRED (FO)

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Odell	Lat, Long:	444419N, 0712203W
Size:	11.5 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 2001-03-20 Last reported: 2001-12-17

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

American Marten (*Martes americana*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2004: Area 7024: 1 individual live-trapped.2001: Area 6957: Tracks observed.
General Area:

Location

Survey Site Name: Mt. Kelsey
Managed By:

County:	Coos	USGS quad(s):	Dixville Notch (4407173)
Town(s):	Millsfield	Lat, Long:	444800N, 0711815W
Size:	2.4 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported:	2001-02-01	Last reported:	2004-07-24

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNBA01030*048*NH

New Hampshire Natural Heritage Bureau - Animal Record

Common Loon (*Gavia immer*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2005: 4 adults.2004: Area 3481M: pair, 2 hatched and survived.2002-2003: Area 3481M: pair, 1 hatched and survived.2001: 4 adults.2000: Area 3481M: pair, 2 hatched, 1 survived.

General Area:

LPC territory NHT0039.

Comments: **Location**

Survey Site Name: Dummer Pond
Managed By:

County: Coos
Town(s): Dummer
Size: 1.9 acres

USGS quad(s): Dummer Ponds (4407163)
Lat, Long: 444131N, 0711703W
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 2000-05-17

Last reported: 2004-07-07

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNBA01030*177*NH

New Hampshire Natural Heritage Bureau - Animal Record

Common Loon (*Gavia immer*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2005: 1 adult.2003: pair.2002: 1 adult.2001: pair, nest and eggs.2000: pair.
General Area:
LPC territory NHT0233.

Comments: **Location**

Survey Site Name: Little Dummer Pond
Managed By:

County: Coos	USGS quad(s): Dummer Ponds (4407163)
Town(s): Dummer	Lat, Long: 444050N, 0711707W
Size: 30.8 acres	Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported:	2001-05-24	Last reported:	2001-08-08

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNBA01030*015*NH

New Hampshire Natural Heritage Bureau - Animal Record

Common Loon (*Gavia immer*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2001: Area 4073M: pair, nest and egg. 1989: pair, 2 hatched. 1988: pair, nest.
General Area:
LPC territory NHT0040.

Comments: **Location**

Survey Site Name: Trio Ponds
Managed By:

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Odell	Lat, Long:	444246N, 0712144W
Size:	1.9 acres	Elevation:	2315 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported:	1988	Last reported:	2001

Fair, J. (Loon Preservation Committee). Letter to K. Stone (ASNH) on August 8.

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNBA01030*049*NH

New Hampshire Natural Heritage Bureau - Animal Record

Common Loon (*Gavia immer*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2002: pair.2000: Area 3761M: pair, 1 hatched and survived.
General Area:
LPC territory NHT0176.

Comments: **Location**

Survey Site Name: Phillips Pond
Managed By:

County:	Coos	USGS quad(s):	Dixville Notch (4407173)
Town(s):	Odell	Lat, Long:	444545N, 0712134W
Size:	1.9 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported:	2000-05-17	Last reported:	2000-08-07

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Northern Harrier (*Circus cyaneus*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Endangered	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2003: Area 4405: adult female.2001: Area 4405: pair.1998: Area 4405: pair.1996: Area 4407: adult male.1995: Area 4405: pair, female with nesting material.1994: Area 4405: pair, 5 young. Area 4407: 2 young.1993: Area 4405: adult female, 4 young.1992: Area 4405: pair, 1 young.1989: Area 4405: adult male.1986: Area 4405: 1 young.1984: Area 4405: pair.1983: Area 4405: pair.

General Area:

Location

Survey Site Name: Pontook Reservoir
Managed By: Multiple

County:	Coos	USGS quad(s):	Teakettle Ridge (4407162)
Town(s):	Dummer	Lat, Long:	443827N, 0711437W
Size:	1216.2 acres	Elevation:	1175 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 1986 Last reported: 1996-08-23

PNDSMI01NHUS - Created by EO conversion

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Osprey (*Pandion haliaetus*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2004-2005: Area 8163: nest active, unsuccessful.2003: Area 8163: 2 fledged.2001-2002: Area 8163: nest active, unsuccessful.2000: Area 8163: 2 fledged. Area 8160: adults present.1998-1999: Area 8160: adults present1997: Area 8162: nest active, unsuccessful. Area 8160: adults present.1996: Area 8160, 8162: nest active, unsuccessful. Area 8163: adults present.1994-1995: Area 8160: nest active, unsuccessful1993: Area 8161: adults present.1991-1992: Area 8161: 2 fledged.1990: Area 8161: adults present.

General Area: Area 8161: nest 18.6m up dead *Pinus strobus*, dbh 52.3cm. Area 8160: nest 23.3m up dead *Pinus strobus*, dbh 60.2cm. Area 8162: nest 14.1m up dead *Betula lutea*, dbh 83.8cm. Area 8163: nest 21.7m up dead *Larix laricina*, dbh 45cm.
1998: Area 8160, 8162, 8163: predator guards installed. 1991: Area 8161: predator guard installed.

Comments: **Location**

Survey Site Name: Millsfield Line 1
Managed By:

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Dummer	Lat, Long:	444224N, 0711624W
Size:	1.9 acres	Elevation:	1600 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Millsfield and Dummer townline north of Mud Pond on Right River Branch.

Dates documented

First reported:	1991	Last reported:	2003

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNKC01010*079*NH

New Hampshire Natural Heritage Bureau - Animal Record

Osprey (*Pandion haliaetus*)

Legal Status	Conservation Status
Federal: Not listed	Global: Demonstrably widespread, abundant, and secure
State: Listed Threatened	State: Not ranked (need more information)

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2000-2004: Area 8165: 2 fledged.1999: Area 8165: 3 fledged.1998: Area 8165: nest active, unsuccessful.1997: Area 8165: 2 fledged.1996: Area 8165: adults present.

General Area: Area 8165: nest 14.4m up dead *Betula lutea*, dbh 59.9cm.
1997: Area 8165: predator guard installed.

Comments: **Location**

Survey Site Name: Rasmussen Camp
Managed By:

County: Coos
Town(s): Dummer
Size: .4 acres

USGS quad(s): Dummer Ponds (4407163)
Lat, Long: 443912N, 0711611W
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 1997 Last reported: 2004

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

NHB: 6905

EOCODE: ABNCA02010*020*NH

New Hampshire Natural Heritage Bureau - Animal Record

Pied-billed Grebe (*Podilymbus podiceps*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Endangered	State:	Not ranked (need more information)

Description at this Location

Conservation Rank: Poor quality, condition and/or lanscape context ('D' on a scale of A-D).
Comments on Rank:

Detailed Description: 1990: 1 immature seen at reservoir. 1989: 2 adults observed at marsh.
General Area:

Location

Survey Site Name: Pontook Reservoir
Managed By: Pontook Reservoir. DES - WRC (FO)

County:	Coos	USGS quad(s):	Dummer Ponds (4407163)
Town(s):	Dummer	Lat, Long:	443847N, 0711544W
Size:	2.8 acres	Elevation:	1170 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: [From Milan, take Rte. 16 north ca. 6 miles. Pontook Reservoir is to the left, and Pontook Marsh is north and west of Rte. 16 for about a mile.]

Dates documented

First reported:	1989	Last reported:	1990

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 2 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

Special Plant Survey Form

Obs Pt _____

Survey Site: _____ Date: 06-27-2007 Town: ERVING'S LOCATION

Surveyors: D. DYER G. YOUNG : STANTEC / WOODLOT ALTERNATIVES, INC. Sourcecode: _____ Quad name: _____

Directions: (Map must be attached)

GPS latitude: 44.808270 GPS longitude: -071.351599 Lat/Long differentially corrected? **Yes / No**

Delineate the **observed area** of this community in pencil or **dark** ink, and indicate:

a) The location of the observed area on the map is accurate to within _____meters / feet / _____of its actual location on the ground

b) Is the observed area known to be located within some feature(s) on the map such as a. lake, or contour lines **Yes (No)**

Indicate boundaries with a DASHED line, and if appropriate identify the feature (e.g. "marsh") _____

Optional: Delineate the **estimated extent** of this community in **red** ink, and indicate what percent of the area drawn on the map is actually occupied by this community (select one): ☐ Very High (> 95%) ☐ High (80 – 95%) ☒ Medium (5 – 80%) ☐ Low (0 – 5%) ☐ Unknown

Species Osmorhiza berteroi EONum: _____ SubEO: _____

Phenology (%)		Population Size				Age Structure (%)		Vigor (%)	
55%	In leaf	Ramets		Genets**					
	In bud	39	actual #				seedlings		Very feeble
	In flower		estim. #				immature		Feeble
45%	Immature fruit		1-10			55	vegetative sprouts	100	Normal
	Mature fruit		11-50				1st year		Vigorous
	Seed dispersing		51-100			45	mature (established)		Exceptionally
			101-1000				senescent		vigorous
	Vegetative reproduction*		> 1,000				age unknown		

*Describe vegetative reproduction: _____

**Genets: How defined? Average size?: _____

% of plants with	Description
0 Evidence of disease	
0 Injury / herbivory	

Population Polygon				m2 / acres
	< 1 sq. meter	1 mi²	Total area searched	
	1-5 sq. m.	100%	Area searched that is suitable habitat	% / m2 / acres
	5-10 sq. m.		Population polygon area	Population size measured as area actually occupied / covered: m2
	10-100 sq. m.		% cover in population polygon	
	100-1000 sq. m. (.1 ha)	Stem distribution: Clumped / Scattered: CLUMPED	Search time: 2 people	Suitable habitat nearby not searched?
X	> 0.1 ha	Other:	60 minutes	None / (Unknown) m2 / acres
	actual area (if known)			Inferred (e.g. topo):
				Seen, not searched:

Comments on population size / distribution / etc.:

Aspect			Slope	Light	Topo position	Moisture regime	Comments
	N	NE	0-3%	Open	Crest	Inundated (hydric)	
	E	NW	3-8%	Partial	Upper slope	Saturated (wet-mesic)	
	S ✓	SE	✓ 8-15%	✓ Filtered	✓ Mid-slope	✓ Moist (mesic)	
	W	SW	15-35%	Shade	Lower slope	Dry-mesic	
	Flat		35%-vert.		Bottom	Dry (xeric)	
	Degrees		degrees				

Elevation range: 2500 to 2600 (feet) meters Soil name (SCS) / Substrate: 750B - SADDLEBACK - GEEBE - RICKER

Bedrock type: _____

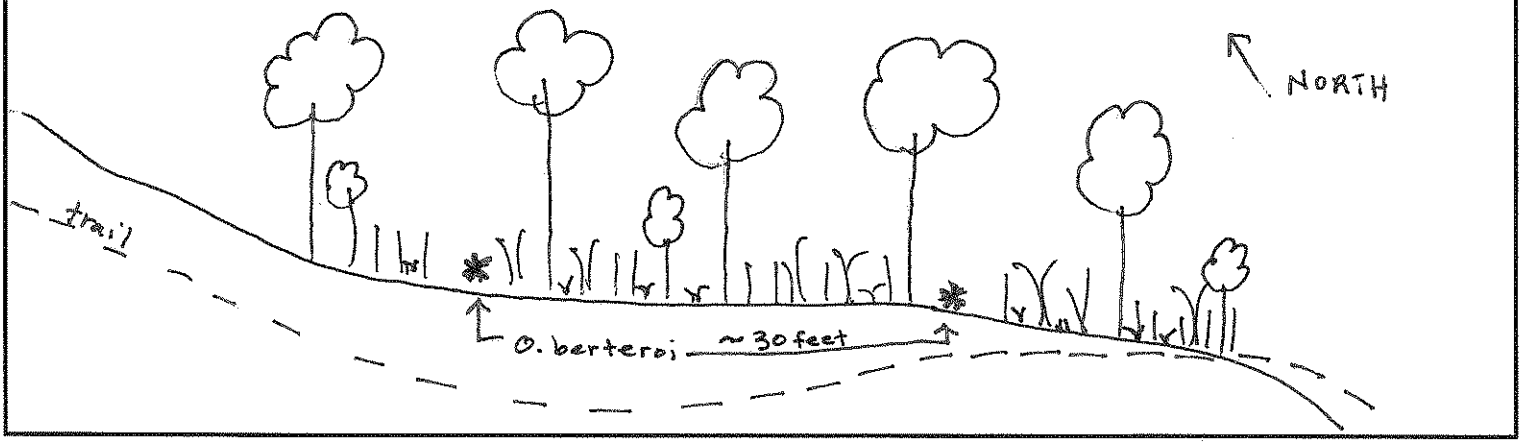
Associated natural community: SEMI-RICH MESIC FOREST Releve completed? **Yes / No**

Associated plant species (immediate vicinity): Carex intumescens, Dryopteris intermedia, Dryopteris campyloptera, Impatiens capensis, Phegopteris connectulis, Tiarella cordifolia, Polystichum braunii, Onoclea sensibilis, Athea pachypoda,

Dominant / characteristic species:

Acer saccharum, Acer pemsylvanicum, Cornus alternifolia, Sambucus pubens, Thelypteris noveboracensis

Cross-section of topography (habitat and/or aerial view). Include scale, direction, element position:



Specimen taken? (Yes) / No Photograph taken? (Yes) / No Photograph attached? (Yes) / No

For specimens: Collector, collection #, repository: D.DYER, STANTEC/WOODLOT ALTERNATIVES, TOPSHAM, ME

Other members of this genus at this site? Yes (No) List the species:

Describe any evidence of hybridization:

Other identification problems or taxonomic issues:

NONE

Owner aware of the plant? (Yes) / No / Unknown Owner comments:

Owner protecting the plant? (Yes) / No (Unknown) (PROJECT AREA ADJUSTED)

Evidence of disturbance: NONE. FOREST INTACT AND UNDISTURBED

Management needs: NONE. MAINTAIN CURRENT CONDITIONS, NO DISTURBANCE

The SIZE of the population: Summarize first page, provide additional details (e.g. on the distribution of the plants, how confident you are that most of the habitat was searched, thus most plants were located).

39 plants, 45% fruiting in a total area of about 20 square meters. Searched approximately 1 sq-mile around population for additional locations, none found. Habitat in the searched area has potential.

The current CONDITION of the population and its immediate habitat. Include reproductive activity and health of the plants, and dispersal, establishment, and maintenance of the population. Also evidence of disturbance in the immediate vicinity including known) presence of invasive species.

Population stable, seems to be expanding, healthy. Not currently threatened.

Forest type: Semi-rich mesic forest, mature, undisturbed, 90% shaded, sugarbush.

The condition of the LANDSCAPE in the area SURROUNDING the population (e.g. is the area an undisturbed, functioning natural ecosystem: current and past land use? fragmentation?).

Area to the west: State forest land. North: State forest / Private w/ trails / conservation? South: Actively harvested / managed. East: Actively harvested / managed.

Overall Rank (A-D): B+ Components (A-D): Size: B- Condition: A Landscape Context: A

Your experience is (ranks are relative to): ☐ Local ☐ Statewide ☒ Regional ☐ Global (for this element)